

and Jefferson Counties in the central part of the State. The earliest and latest date of its capture are June thirtieth and October twenty-sixth. According to Prof. Charles Woodworth, formerly Entomologist of the Arkansas Agricultural Experiment Station, at present of the University of California, this species sometimes lays its eggs in small holes in rocks in stone fences. It is a larger species than would appear from Scudder's measurements which are 25 mm. for male and female. Average specimens

in my collection measure as follows:

Length of body male, 25 mm. female 32 mm.

Length of hind femora male,  $17\frac{1}{2}$  mm. female 18 mm.

The tegmina vary from one and a half times the length of the pronotum to the length (male) of the abdomen. The cerci are quite variable and the under side is frequently red as in *Mel. clypeatus* Scudd. which is possibly only a synonym of *Mel. viola*.

### THE MOUTHPARTS OF THE NEMATOCEROUS DIPTERA, III.

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#### DIXIDAE.

*Dixa* sp. The females of *Dixa* possess a mouth structure (see fig. 4) like those already described, consist-

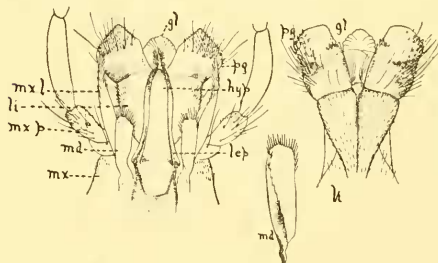


Fig. 4, Mouthparts of *Dixa* sp., ♀; *l. ep* labrum-epipharynx, *md* mandible, *mx l* maxillar lobe, *mx p* maxillar palpus, *li* labium, *pg* paraglossa, *gl* glossa, *hyp* hypopharynx.

ing of *labrum-epipharynx* (fig. 4, *l. ep*), *mandibles* (fig. 4, *md*) which are short, weakly chitinized, trowel-shaped, with truncate, distal margin with fine, deep dentations; *maxillae* (fig. 4, *mx*) with 5-segmented palpus and maxillar lobe weakly chitinized but long and conspicuous; strong *labium* (fig. 4, *li*) with free paraglossae and glossae fused to form a membranous median lobe; and *hypopharynx* (fig. 4, *hyp*) of usual type.

#### PSYCHODIDAE.

*Psychoda* sp. *Psychoda* (see fig. 5) has no mandibles and the labium presents but two terminal lobes. The *labrum-epipharynx* (fig. 5, *l. ep*) is short, broad, triangular. The *maxillae* (fig.

5, *mx*) are composed of a conspicuous maxillar lobe, which is broad and plate-like, with margins dorsal and ventral, and which is about as long as the labium, and of a long 4-segmented palpus which bears many scales. The *labium* (fig. 5, *li*) is short, broad, composed of a small, strongly chitinized, basal sclerite, and two large, fleshy, terminal lobes, the paraglossae, concave on their inner faces. The *hypopharynx* (fig. 5, *hyp*) is broad at base, tapering quickly to a sharp point anteriorly and is fringed with long strong hairs.

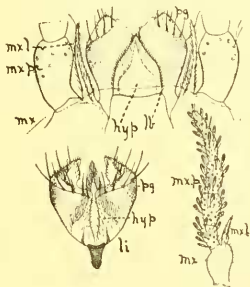


Fig. 5. Mouthparts of *Psychoda* sp; *lb* labrum-epipharynx, *mx* maxilla, *mx. l* maxillar lobe, *mx. p* maxillar palpus, *li* labium, *pg* paraglossa, *hyp* hypopharynx.

*Pericoma* sp. The mouthparts of *Pericoma* are essentially like those of *Psychoda*. The maxillar lobes are broad, plate-like. The hypopharynx is fringed with long hairs. The labial lobes bear many short, strong, socketed hairs.

I have not been able to examine

*Phlebotomus* whose females, according to Becker, possess piercing mouthparts, with long, strong, mandibles finely dentate along the inner margin, and with maxillar lobes also long, well-chitinized and with truncate distal margin with strong dentation. All of the mouthparts of *Phlebotomus* are long and slender, while those of *Psychoda* and *Pericoma* are short and broad.

#### CECIDOMYIDAE.

*Catocha* sp. (two species studied). The mouthparts of *Catocha* (fig. 6) consist of *labrum-epipharynx* (fig. 6, *l. ep*) *maxillae* (fig. 6 *mx*) which are represented by long 5-segmented palpi only, no maxillar lobe being present, and a short broad *labium* (fig. 6 *li*)

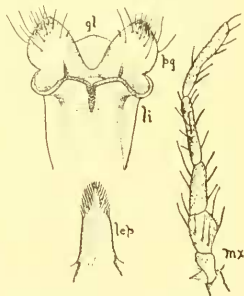


Fig. 6. Mouthparts of *Catocha* sp; *l. ep* labrum-epipharynx, *mx* maxilla, *li* labium, *pg* paraglossa, *gl* glossa.

with lateral paraglossae and fused glossae. I was unable to find a *hypopharynx*, which, however, is probably

present, the minute size of the mouthparts making their dissection very difficult.

*Cecidomyia* sp. The mouthparts of *Cecidomyia* sp. are essentially like those of *Catocha*.

#### MYCETOPHILIDAE.

*Sciophila* sp. *Sciophila* (fig. 7) presents an instructive mouthparts condi-

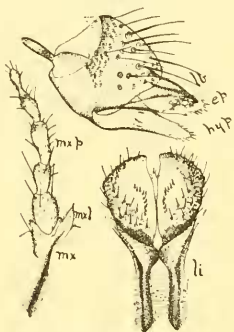


Fig. 7, Mouthparts of *Sciophila* sp; *lb* labrum, *ep* epipharynx, *mx* maxilla, *mx. l* maxillar lobe, *mx. p* maxillar palpus, *li* labium, *hyp* hypopharynx.

tion. Mandibles are wanting, and the maxillar lobe is small and rudimentary. The *labrum-epipharynx* is separable, after softening in hot K O H, into its component parts, a well chitinized, sharp, tapering, pointed labrum (fig. 7 *lb*) and a broader membranous epiphar-

ynx (fig. 7 *ep*) with irregular dentations at apex. The *maxillae* (fig. 7 *mx*) present an elongate basal part with a median longitudinal region strongly chitinized, a distinct palpifer from which arises the 5-segmented palpus (*mx. p*) and a small but distinct terminal lobe (*mx. l*). The *labium* (fig. 7 *li*) presents a basal sclerite in which, as in the maxillae, a strongly chitinized longitudinal region is conspicuous, in each half; the paraglossae are large thick, fleshy, concave on inner face, and show no signs of pseudo-tracheae; the fused glossae are represented by a very delicate median membranous lobe. The *hypopharynx* (fig. 7 *hyp*) is much like the epipharynx in condition being rather broad, and irregularly dentate at apex.

*Platyura* sp. Mouthparts essentially like those of *Sciophila*. Hypopharynx broadly triangular; maxillae with 5-segmented palpus and weak, spoon-like, terminal lobe as long as first palpar segment. Labium with free, elongate paraglossae; glossae fused to form a single, short, broad, median lobe.

*Mycetophila* (two species). The genus shows a specialization in its mouthparts distinctly beyond the conditions presented by *Sciophila* and *Platyura*. The maxillae have no lobes, and the maxillary palpi are 4-segmented. The labial lobes are all fused to form a single broad plate-like lobe, in which two large tracheal trunks (or pseudo-tracheal trunks) are visible.